

# INTERNATIONAL SEARCH REPORT

Inter.      nal Application No  
PCT/EP2004/009281

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7    C12N5/08    A61K39/00    A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7    C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ICHIYAMA M: "INDUCTION OF NON-HLA-RESTRICTED ANTI-TUMOR EFFECTOR CELLS WITH STRONG CYTOTOXIC ACTIVITY USING MUC1/B7 COTRANSFECTED K562 CELLS" KAREI IGAKU KENKYUSHO ZASSHI, TOHOKU DAIGAKU KAREI IGAKU KENKYUSHI KENKYUKAI, SENDAI, JP, vol. 51, no. 3-4, 2000, pages 93-110, XP001182213 ISSN: 1340-3397 abstract; figures 1-12</p>	1-22
X	<p>WO 97/40182 A (PECHER, GABRIELE) 30 October 1997 (1997-10-30)  page 4, line 26 - page 5, line 9  ----- -/-</p>	1,2,4-9, 11-13, 15-22

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

5 April 2005

Date of mailing of the international search report

15/04/2005

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KARSTEN U ET AL: "Enhanced binding of antibodies to the DTR motif of MUC1 tandem repeat peptide is mediated by site-specific glycosylation" CANCER RESEARCH, AMERICAN ASSOCIATION FOR CANCER RESEARCH, BALTIMORE, MD, US, vol. 58, no. 12, 15 June 1998 (1998-06-15), pages 2541-2549, XP002112486 ISSN: 0008-5472 page 2544, left-hand column; table 2 page 2548, right-hand column - page 2549, left-hand column	8,11-22
X	BOEHM C M ET AL: "Carbohydrate recognition on MUC1-expressing targets enhances cytotoxicity of a T cell subpopulation" SCANDINAVIAN JOURNAL OF IMMUNOLOGY, vol. 46, no. 1, 1997, pages 27-34, XP002323076 ISSN: 0300-9475 page 32, left-hand column - page 33, left-hand column abstract	1-22
A	DUK MARIA ET AL: "Purification of human anti-TF (Thomsen-Friedenreich) and anti-Tn antibodies by affinity chromatography on glycophorin A derivatives and characterization of the antibodies by microtiter plate ELISA" ARCHIVUM IMMUNOLOGIAE ET THERAPIAE EXPERIMENTALIS, vol. 46, no. 2, 1998, pages 69-77, XP008045186 ISSN: 0004-069X the whole document	1-22
A	CAO YI ET AL: "Immunodetection of epithelial mucin (MUC1, MUC3) and mucin-associated glycotopes (TF, Tn, and sialosyl-Tn) in benign and malignant lesions of colonic epithelium: Apolar localization corresponds to malignant transformation" VIRCHOWS ARCHIV, vol. 431, no. 3, 1997, pages 159-166, XP002323077 ISSN: 0945-6317 page 163, right-hand column page 165, left-hand column; figure 4	1-22
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GOLLASCH H ET AL: "IDENTIFICATION OF IMMUNOGENIC PEPTIDE-MIMICS FOR THE THOMSEN-FRIEDENREICH-GLYCOANTIGEN" ANNALS OF HEMATOLOGY, BERLIN, DE, vol. 77, no. SUPPL 2, 1998, page S84, XP000960533 ISSN: 0939-5555 abstract	1-22
P,X	WO 2004/009632 A (NEMOD IMMUNOTHERAPIE AG; GOLETZ, STEFFEN; KARSTEN, UWE) 29 January 2004 (2004-01-29) cited in the application page 1 - page 4	2
P,X	WO 2004/018659 A (GLYCOTOPE GMBH; GOLETZ, STEFFEN; BAUMEISTER, HANS; SCHOEBER, UTE) 4 March 2004 (2004-03-04) page 52 - page 53; claim 17; tables 2,3	1-22
T	KUNZ HORST: "Synthetic glycopeptides for the development of tumour-selective vaccines." JOURNAL OF PEPTIDE SCIENCE : AN OFFICIAL PUBLICATION OF THE EUROPEAN PEPTIDE SOCIETY. SEP 2003, vol. 9, no. 9, September 2003 (2003-09), pages 563-573, XP008045163 ISSN: 1075-2617 page 564, left-hand column, paragraph 4 - paragraph 5 page 565, left-hand column, paragraph 2 - page 566, right-hand column; figure 3	1-22

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international application No.  
PCT/EP2004/009281

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Although claims 18, 19 (partially, as far as an in vivo step is not excluded), 20 & 22 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9740182	A	30-10-1997	DE	19617837 A1	23-10-1997
			DE	19617846 A1	23-10-1997
			WO	9740182 A1	30-10-1997
			EP	0906444 A1	07-04-1999
WO 2004009632	A	29-01-2004	AU	2003266236 A1	09-02-2004
			WO	2004009632 A2	29-01-2004
WO 2004018659	A	04-03-2004	AU	2003260426 A1	11-03-2004
			WO	2004018659 A1	04-03-2004